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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MULLEN, THOMAS J	

ART UNIT	PAPER NUMBER
2632	

DATE MAILED: 08/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/761,362	BANDY ET AL.	
	Examiner	Art Unit	
	Thomas J. Mullen, Jr.	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-103* is/are pending in the application.

4a) Of the above claim(s) *84-98* is/are withdrawn from consideration.

5)☒ Claim(s) *30-56,66,67,75,76,99,101 and 102* is/are allowed.

6)☒ Claim(s) *1-4,7,19-22,58-63,77-80 and 103* is/are rejected.

7)☒ Claim(s) *5,6,8-18,23-29,57,64,65,68-74,81-83 and 100* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 January 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/22/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Applicant's election without traverse of group I, claims 1-83 and 99-103 in the reply filed on 6/20/05 is acknowledged. Claims 84-98 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention(s), there being no allowable generic or linking claim.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 1309 and 1509 (see paragraphs 0152 and 0159 in the specification, corresponding to Figs. 13B and 15, respectively).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 1082 (Fig. 10).

The drawings are objected to because in Fig. 17, it appears that "1640" should be --1740-- (see paragraph 0167 in the specification).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), and/or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b), are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Errors noted by the examiner include:

paragraph 0085, next-to-last line, "communications" (first occurrence) should be --communicates--; and

paragraph 0108, line 3, it appears that after "user interface" should be inserted --346--, for consistency (note Fig. 3 and paragraph 0076).

4. The abstract of the disclosure is objected to because on line 8, "and RFID" should be --an RFID--. Correction is required. See MPEP § 608.01(b).

5. Claims 1-29, 57, 68-74, 100 and 103 are objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 103, line 1 in each claim, "An radio" should be --A radio--.

Claims 1 and 103, line 6 in each claim, it appears that "communication" should be --communications-- (note that element 230, as shown in Fig. 2 of the drawings and as described in the specification e.g. at paragraph 0061, is generally referred to as an "RF power and communications interface", and note other references to this element in the claims, e.g. on lines 8-9 in each of claims 1 and 103 and on lines 1-2 in claim 9).

Likewise, in claim 20, line 2, it appears that "communication" should be --communications--.

At the end of claim 57 should be inserted a period.

Claims 68, 71 and 72, line 1 in each claim, "the read" lacks clear antecedent basis.

Claims 70 and 73, line 1 in each claim, "the wireless sensor device" lacks clear antecedent basis.

Claim 73, line 2, "the one or more sensor elements" lacks clear antecedent basis.

Claim 100, "the received sensor processing information" lacks antecedent basis (note the dependency of the claim).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 58-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Petite et al (US 6437692), or in the alternative under 35 U.S.C. 102(e) as being anticipated by Hitt (US 2004/100394).

Petite et al

Note in Petite et al (Fig. 2), sensor/transceivers 212,214,216,222,224; stand-alone transceivers 211,213,215,221; local gateways 210,220; WAN or Internet 230; and workstations 240,250. Sensor 310 (Fig. 3C) of the sensor/transceivers "could be a two-state device...(or) may output a continuous range of values" (col. 9, lines 16-19), to a data interface 321. The sensor devices are "RF addressable" by virtue of transceiver ID block 326 (see col. 8, lines 28-31). Stand-alone transceivers 211,213,215,221 and/or gateways 210,220 serve as "wireless sensor readers" to "obtain sensor data" from the sensor/transceivers (the wireless communication between the groups of transceivers, and between the stand-alone transceivers and the gateways, is described at col. 6, line 59 to col. 7, line 17). Workstations 240,250 are implicitly "end user (or "client") devices" for accessing stored information and generating certain control signals (col. 7, lines 41-57).

Regarding claim 59, as discussed above the transceivers, gateways, etc. form a "wireless communications network", and the stand-alone transceivers 211,213,215,221 and/or gateways 210,220 implicitly include "wireless communications device(s)" (see col. 5, line 45 to col. 6, line 23 regarding the "RF transmission(s)" among the various entities).

Regarding claim 60, the communications network discussed above is implicitly a "data" network.

Regarding claim 61, gateways 210,220 implicitly define a "wireless" communications network which is coupled to a "data" network (e.g., Internet 230), see col. 6, lines 15-23.

Regarding claim 62, communications network 230 may be the Internet, as discussed above.

Regarding claim 63, server 260 (Fig. 2) is implicitly a "sensor network processor", see col. 7, lines 41-57.

Hitt

Note in Hitt (Fig. 2), wireless sensor nodes 160,162,170,172; repeater node 177 (paragraph 0045, lines 17-19); gateway node 168; local area network or Internet 192 (paragraph

0045, lines 10-14); and remote computer 190. The sensor nodes (see Fig. 2A) are "RF addressable" by virtue of a "unique transceiver identifier" stored in memory 155 (see para. 0046, lines 12-14 and para. 0066, last 4 lines). Repeater node 177 and/or gateway node 168 serve as a "wireless sensor reader" to "obtain sensor data" from the sensor nodes (note "command" and "response" messages--para's. 0066-0067). Remote computer 190 is implicitly an "end user device" for accessing stored information and generating certain control signals (para. 0045, lines 14-17).

Regarding claim 59, as discussed above the sensor nodes, gateway, etc. form a "wireless communications network", and the repeater node 177 and/or gateway node 168 implicitly include "wireless communications device(s)".

Regarding claim 60, the communications network discussed above is implicitly a "data" network.

Regarding claim 61, gateway node 168 implicitly define a "wireless" communications network which is coupled to a "data" network (e.g., Internet 192).

Regarding claim 62, communications network 192 may be the Internet, as discussed above.

Regarding claim 63, local monitor node 166 and computer 188 (Fig. 2) implicitly define a "sensor network processor", see para. 0045, lines 7-10.

8. Claim 103 is rejected under 35 U.S.C. 102(e) as being anticipated by either Hitt or Hamel et al (US 2004/113790).

Hitt was discussed in paragraph 7 above, wherein the wireless sensor nodes 160,162,170,172 each include (Fig. 2A and para. 0046) one or more sensor elements 158; sensor (data) interface "includ(ing) an analog-to-digital converter" (paragraph 0048, lines 1-7); antenna 152; RF power and communications interface (implicitly defined by transceiver 154); controller 156; memory 155 (for the "unique...identifier" of the sensor node, as discussed above); and a "local" memory including a "sensor data table" (see para. 0068, lines 1-4; it is considered inherent that the "aggregat(ing)" of sensor data defines a sensor data "table" per se).

Note in Hamel et al, sensor transponders 48a-48c (Figs. 2a-2c) or 202 (Fig. 8a), characterized as "multiple addressable transponders" in Fig. 8a, wherein the sensor transponders

each include one or more sensor elements 60 (paragraph 0063 and Fig. 2a); sensor interface (56,230) having an analog to digital converter (230, Fig. 2a); antenna 34' (para. 0064, line 3); RF power and communications interface (implicitly defined by elements 28',30,42,50,52,66,68,etc. in Fig. 2a--see e.g. para. 0051, para. 0063, lines 1-5 and para's. 0071-0072); controller 54; memory/EEPROM 208 for a "sensor data table", i.e. sensor data may be stored in "data storage" 208 (para. 0108, lines 4-6)--it is considered inherent that the "acquiring" and "storing" of sensor data defines a sensor data "table" per se; and a further "memory", implicitly needed to store the "unique address" of each sensor transponder (see para. 0104, lines 9-11), i.e. note that Hamel et al teaches using additional data storage elements as needed (para. 0107, lines 6-8).

9. Claims 1 and 77-80 are rejected under 35 U.S.C. 102(e) as being anticipated by any of Hitt, Hamel et al or Skorpik et al (US 2005/87235).

Claims 77-80

Hitt and Hamel et al disclose "addressable sensors" as discussed in paragraph 8 above (see also paragraph 7 above, regarding Hitt), for communicating sensor data to a "wireless sensor reader" (168,177 in Hitt; 40,206 in Hamel et al), for transmission over a "communications network" (192 in Hitt; "Wireless Web Enabled Sensor Network (WWSN)" in para. 0079, last 2 lines in Hamel et al).

Note in Skorpik et al, RFID sensor assemblies 31-37 (Fig. 1) or 50 (Fig. 2A); reader 52 (Fig. 2B), which may be either an "RFID control tag" 38 or a "portable computer" 40,42,44 (see Fig. 1 and para. 0026); and web server 46 (Fig. 1), for communicating sensor data over a communications network (see e.g. para. 0031, last 2 lines). Sensor assemblies (31-37,50) includes one or more sensor elements (53,55,57); RF transceiver 56; antenna 58; and processor 54. Processor 54 has one or more sensor/data "interfaces" (note the various input ports of the processor in Fig. 2A), for "receiving signals from...reader (52)" via transceiver 56; "obtaining analog sensor data from...(the) sensor element(s)" (note the processor input ports associated with the sensors 53,55,57 in Fig. 2A); "converting the analog sensor data to digital sensor data" (note the processor input ports labeled "A/D", and see para. 0033, lines 6-7); and "communicating the...sensor data to the...sensor reader (52)" via transceiver 56, "for transmission over the communications network" via web server 46.

Regarding claim 78, in each reference the sensor is responsive to an interrogation-type signal from the reader (implicitly, a "read sensor" signal) to obtain and communicate the sensor data--Hitt and Hamel et al as discussed above, in Skorpik et al see para. 0026, lines 4-6 and para. 0031, lines 16-19.

Regarding claim 79, in each reference the sensor data is implicitly "process(ed)" by the processor (156 in Hitt; 54 in Hamel et al; 54 in Skorpik et al).

Regarding claim 80, in each reference "a stored tag identification number" is communicated to the reader--Hitt and Hamel et al as discussed above, in Skorpik et al see para. 0031, lines 14-16.

Claim 1

Regarding claim 1, either Hitt or Hamel et al teaches all the recited elements of the RF addressable sensor as discussed above; Skorpik et al further teaches an "RF power and communication(s) interface" (implicitly defined by transceiver 56, battery 62, etc.), and "memory" coupled to the controller 54 (see para. 0031, lines 5-11) for storing various information including sensor data and a "tag identification number" (as discussed above).

10. Claims 2-4 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by either Hitt or Hamel et al.

The subject matter of claims 2-3 corresponds to the last 2 lines of claim 103, which is met by either Hitt or Hamel et al as discussed in paragraph 8 above.

Regarding claim 4, either Hitt or Hamel et al teaches storing a "sensor identification number" (e.g. "unique identifier" or "unique address") as discussed above.

Regarding claim 7, either Hitt or Hamel et al teaches using at least one "memory" element which is "programmable", by virtue of being able to receive data (e.g. sensor data) thereto, as discussed above.

11. Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by either Hamel et al or Skorpik et al.

In Hamel et al, the "RF power and communication(s) interface" includes, as elements of a "power generation module", at least rectifier 50; voltage regulator 52; tap 66; and switch 68 (note

the "Power Transfer and Power consumption" section, para's. 0068-0074). In Skorpik et al, the "RF power and communication(s) interface" includes, as elements of a "power generation module", at least battery 62; "power supervision" block 64; switch 66; battery monitor 68; "super" capacitor 70; and LDO regulator 72 (note para. 0035).

12. Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by Hamel et al.

The power generation module in Hamel et al (discussed above) implicitly "harvest(s) RF energy" which is received from an incoming reader signal, as discussed in the "Power Transfer and Power consumption" section (para's. 0068-0074).

13. Claim 22 is rejected under 35 U.S.C. 102(e) as being anticipated by Skorpik et al.

The power generation module in Skorpik et al includes battery 62, as discussed above.

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of Hitt, Hamel et al or Skorpik et al.

Each of Hitt, Hamel et al and Skorpik et al teach using, as one type of sensor in their respective systems, a temperature sensor (para. 0046, lines 19-20 in Hitt; para. 0054, lines 5-6 in Hamel et al; para. 0033, lines 10-11 in Skorpik et al). One skilled in the art would have recognized that a "thermistor" is a common type of temperature sensor (inexpensive, readily available) for use in an RF addressable device. Therefore, it would have been obvious for the temperature sensor in any of Hitt, Hamel et al or Skorpik et al to be a "thermistor", as claimed.

16. Claims 30-57, 66-76 and 99-102 are allowed, or would be allowable if rewritten or amended to overcome the objection(s) under 37 CFR 1.75(a), set forth in this Office action.

Claims 5, 6, 8-18 and 23-29 would be allowable if rewritten to overcome the objection(s) under 37 CFR 1.75(a) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 64, 65 and 81-83 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wallace (US 6856247), Partyka (US 6731223) and Stilp (US 2004/212500) are cited to further show the state of the art.

Regarding the art cited by applicant, the US patents, US application publications, and non-patent literature publications are made of record; the pending US application serial numbers have been crossed out, as they are not "publications" (if listed anywhere on form PTO-1449, they should be listed under "Other").

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Mullen, Jr. whose telephone number is 571-272-2965. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu, can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

TJM

Thomas J. Mullen, Jr.
Primary Examiner
Art Unit 2632